D & S DESIGNS

AK & SEMI AUTO

RECEIVER PLANS AND

INSTRUCTIONS

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D & S DESIGNS
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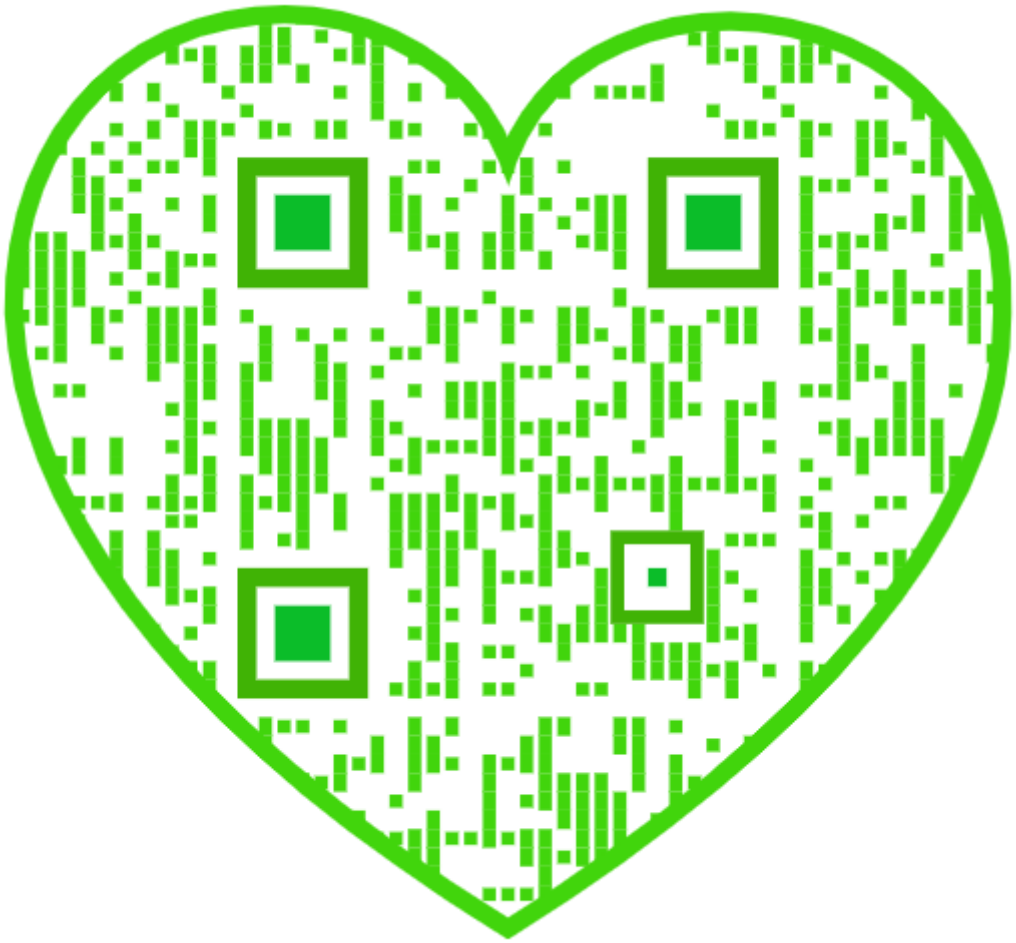

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D&S DESIGNS

AK & RPK SEMI AUTOMATIC RECEIVER PLANS

(Second Edition)

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The D&S Designs plans are for the fabrication of a AK-47 and RPK receiver, much like the receivers fabricated by the Viet Cong in tunnel work shops in Vietnam, and in make shift workshops in Afghanistan for the Mahajadeen fighters against the Russians. The main idea behind the plans are to keep it simple, and limit the machinery necessary to make the AK receiver, so that a person with ordinary intelligence, and knowledge of how to use basic tools can fabricate an AK receiver. Our plans are not an exact duplicate of the AK receiver, because changes have been made to simplify the fabrication of the receiver, yet allow you to use the parts kits currently on the market to complete your rifle.

These plans do allow you to build a regular AK rifle, either with a Thumb Hole stock, or with the correct number of Made In U.S.A. parts, and AK with a separate buttstock and pistol grip, and accept double stack magazines. A California Legal AK receiver, which has the trigger mounted at

the rear of the receiver, for use with a Siaga or Norinco type buttstock. The California legal receiver also differs in that it is specifically designed for the single stack 10 round magazines. The California legal plans are in addition to the traditional AK plans.

This new Second Edition also includes rebarreling to calibers such as .35 Remington, .223/5.56 NATO and .45 Winchester Magnum. Since the bolt in most parts kits are two lug bolts, the above named cartridges, in factory loads will not create excessive pressure for this two lug bolt design.

THE AK AND RPK RECEIVER FLATS AND BOTTOM

The word s "flat" or "flats" refer to the sides of the receiver, and bottom is naturally the bottom of the receiver.

You should use DYKEM steel blue layout fluid, which can be purchased in a 16 oz. Aerosol can (Model # V825-8300), cost $6.29, an 8 oz. can w/cap brush (Model # V825-8320), cost $4.39, and Layout Fluid Remover, 11 oz. Aerosol (Model # V505-1390), cost $5.69 from Enco, at 1-800-873-3626, 24 hour Fax 1-800-965-5857, or over the Internet at: http://www.use-enco.com .This is essential in laying out your receiver parts.

The receiver should be made of 4130 steel, or equivalent, with a

thickness of 0.125 inches. You can go thicker if you wish, this is your choice, just keep the inside dimensions the same. This material will be used to fabricate the flats and the bottom of the receiver. You will need 2 pieces rough cut to 2inches x 10.5 inches, and 1 piece 1 .25 inch by 10.5 inches. You will probably have to buy the steel in a larger size than needed, then cut the pieces to the exact specifications as per the instructions and drawings.

For the flats, rough cut out two pieces, 2 inches by 10.5 inches long. Now scribe the cuts onto one flat. The rear of the flat will be 1.70 inches. The front of the flat 1.25 inches. The length of the flats will be 10.25 inches. The top of the flats will be square with the front and rear of the receiver cuts at 90 degree angles. The taper from 1.70 inches to 1.25 inches start at the rear of the receiver and run to the front of the receiver. Cut both flats at the same time clamped together with C-Clamps or vise grips This gives you two flats that match each other. The flats can easily be cut with a band saw with a metal cutting blade, but can also be cut with a hack saw. Cut a little outside your scribed lines, so you can finish to the exact measurements, using a file to give you a better finished surface.

For the bottom, use the same material, and cut it to 1.25 inches by

10.25 inches. Cut outside your scribed lines, so you can finish to the exact dimensions using a file for a better finished surface.

FABRICATING A WELDING FIXTURE

The welding fixture, which will be used to weld the flats and bottom into place, is made of 1.25 inch square tubing, as thick as possible, making it very rigid. Make sure the square tubing has exactly 1.25 inches outside dimensions on two opposite sides. If the square tubing is a little too thick, it can be filed down to the 1.25 inches. Make the fixture 16 inches in length

On the bottom, find the location for the trigger and magazine, and drill a 1/4 inch hole in the center of each location. Now clamp the bottom to the Square tubing, squaring the bottom up for a perfect fit, then scribe the holes on the bottom on the square tubing. Remove the bottom and drill and tap the square tubing for a two 1/4 inch machine screws. During the welding process, the bottom will be bolted to the square tubing.

Next drill 2 1/4 inch holes in the flats, one located at the safety lever pin location and the other centered in the magazine area. Drill the holes in the flats, while they are clamped together, so the location of the holes are the same on both flats. Now, use C-Clamps or vice grips to hold the flats in

place, fitting flush over the top of the bottom sides, then scribe the holes on the square tubing. Remove the flats, and drill and tap for two 1/4 inch machine screws.

To complete the welding fixture, you will need six (6) fender washers and six (6) 1/4 inch machine screws long enough to go through all the threads in the square tubing, with the flats and bottom bolted in place, plus the thickness of the fender washer.

WELDING THE FLATS AND THE BOTTOM OF THE RECEIVER TOGETHER

First on the bottom measure 1.0 inch from each end, and mark. Now, measure 3 inches from each end and mark, then mark again at 3.75 inches from each end, and mark. Take your file and taper the bottom side from each end to 1.0 inches at a 45 degree angle, half way through the material. Repeat the taper starting at the 3.0 inch mark to the 3.75 inch mark from each end. Each of these tapers will be filled with weld, then grinded, and filed smooth. You can add more welds if you like, to increase the strength, but we have found eight welds hold the flats and bottom together securely.

Now secure the flats and the bottom to the welding fixture, making sure

everything fits correctly. Now you can either weld it yourself, or have a welding shop make the welds for you. Use a Mig Welder or Stick Welder burning 7018 rods. After welding, allow the welds to cool naturally before removing from the welding fixture.

Now measure the receiver shell making sure the measurements are correct, and you maintained the 1.25 inch inside measurement throughout the receiver shell. If the receiver is smaller or larger than the 1.25 inches, use four 3 inch X 1/4 inch machine screws, with eight 1/4 inch nuts, and eight fender washers put through the 1/4 inch holes drilled in the flats to adjust the 1.25 inch measurement. Place one 1/4 inch nut and a 1/4 inch fender washer next to the head of the machine screw, insert it in the 1/4 inch hole, then place one 1/4 inch fender washer, two 1/4 inch nuts and one 1/4 inch fender washer on the machine screw inside the receiver shell, in that sequence. Next, push the machine screw through the other flat, then place a 1/4 inch fender washer, and 1/4 inch nut on the machine screw. This will allow you to push the flats in, or pull them out until you obtain the 1.25 inch measurement. Usually go push or pull the flat a bit further than needed, then when you loosen the nuts, it will spring back to the desired measurement. Also use this

method to keep the bottom and the flats at 90 degree angles. After the measurements are exact, cut you a hardwood block 1.25 inches thick, and use this when you place the receiver shell in the vise to grind, then file the weld smooth.

INSTRUCTIONS FOR RECEIVER CONNECTORS

Although I strongly recommend welding the receiver together, there are other methods available. You can rivet it together, or bolt it together using machine screws. Using either method, you will need two connectors made from 4130 square tubing, 1 inch x 1 inch x 10.25 inches long, with a thickness of at least 0.050 inches, preferably thicker.

The square tubing is cut lengthwise, corner to corner, forming 2 L's, which is then cut and finished to 0.625 inches on each side of the L's. These can be riveted into place, on the flats and the bottom making sure the rivets do not interfere with any gun parts used to assemble the rifle. If you choose to use rivets, They can be purchased from Gun Parts, Inc. 226 Williams Ln. west Hurley, N.Y. 12491. Purchase the type 4 rivets, which are 0.122 in diameter, and the length determined by the thickness of the metal used for the flats and the bottom. Make sure you attach the connectors in such a manner

that the 1.25 inch wide bottom fits between the 2 flats. **PLACE THE RIVETS IN LOCATIONS THAT DON'T INTERFERE WITH OTHER PARTS OF THE RECEIVER OR GUN PARTS USED IN THE ASSEMBLE OF THE RIFLE**. You can also use hardened machine screws in conjunction with the connectors, drilling the connector, and drilling and tapping the flats and the bottom. After assembly, file smooth any protrusion of the machine screws into the receiver shell. **AGAIN, PLACE THE HARDENED MACHINE SCREWS IN LOCATIONS THAT DON'T INTERFERE WITH OTHER PARTS OF THE RECEIVER OR GUN PARTS USED IN THE ASSEMBLY OF THE RIFLE** . As previously stated, I prefer to weld the receiver shell together, but these other choices are available to you.

INSTRUCTIONS FOR THE TOP BOLT ASSEMBLY

GUIDE RAILS

The top guide rails are made of 4130 1 inch by 1 inch square tubing, with a thickness of 0.050 inch, and a finished length of 6.00 inches The metal is cut lengthwise, corner to corner, forming 2 L's, which is then cut to 3/4

inch on one side of the "L" and the other side of the L is cut to 0.200 inch, plus the thickness of the flat. So, if you use flats with a thickness of 0.125, the width should be 0.325 inches. Cut the sides a bit large, then finish to the exact dimension with a file. Now measure 1.75 inches from the top rear of the receiver, and mark on both sides. This will be the location where the Top Bolt Assembly Guide Rails attach to the receiver, and go forward along the top of the flats for 6.00 inches.

Now, you must decide the method you will use to attach Top Bolt Assembly Guide Rails to the Receiver. You can tack weld them in place which is by far the easiest. Clamp the Top Bolt assembly Guide Rail in place. A tack weld on both ends, and 2 more tack welds spaced evenly along the 6.00 inch length is sufficient. You can button weld them in place by drilling 6 evenly holes in each of the Top Bolt Assembly Guide Rails, clamping them in place, filling each hole with weld, then grinding and filing smooth. The third option is attaching the Top Bolt Assembly Guide Rail with hardened machine screws. Drill 6 holes on the 3/4 inch side, evenly spaced, then drill and tap the flats of the receiver shell. Clamp the Top Bolt Assembly Guide Rails in place, making sure all the holes line up. Then attach with hardened

allen button head machine screws. Use epoxy on the hardened machine screws, because it gives you more bonding than Locktite. File smooth any protrusion by the machine screws inside the receiver shell.

After attaching the Top Bolt Assembly Guide Rails to each side of the receiver, use the bolt assembly to check for a proper fit. You may need to remove a bit of metal from the rails to get a good fit.

INSTRUCTIONS FOR THE BOTTOM GUIDE RAILS/MAGAZINE STOPS

LEFT SIDE

The left side means the left side of the receiver, looking from the rear of the receiver. This rail can be purchased for approximately $8.00 from the SKS Man at: http://www.sksman.com or AA-OK, Inc. at: http://www.aa-ok.com so you may decide this is by far the easiest method. The only difference would be removing the magazine stops and replacing them with wider magazine stops for the California Legal Receiver.

The left bottom guide rails are made of 4130 rectangular tubing, 3/4 inch x 1 inch with a thickness of 0.050 inches. The metal is cut lengthwise through the 3/4 inch sides, leaving you with two sides cut to 0.375 inch x

1.00 inch x .3.75 inches in length.

Use your band saw or hack saw to rough out the cuts in the left bottom guide rails, then use a file for cutting the final dimensions as per the shop drawings. **NOTE THE MAGAZINE STOPS ARE A DIFFERENT DIMENSION FOR THE CALIFORNIA LEGAL RECEIVER WHICH IS DESIGNED FOR THE 10 RD. SINGLE STCK MAGAZINES**. The left Bottom Bolt Assembly Guide Rail is the most difficult to fabricate, since much of the work must be done with your files. So, take your time, measure twice, and get it right the first time.

INSTRUCTIONS FOR THE BOTTOM GUIDE RAILS/MAGAZINE STOPS RIGHT SIDE

The right side means the right side of the receiver, looking from the rear of the receiver. This rail can be purchased for approximately $8.00, and this is by far the easiest method. Follow the above instructions for California Legal receivers.

The right bottom guide rails are made of 4130 rectangular tubing, 3/4 inch x 1 inch with a thickness of 0.050 inches. The metal is cut lengthwise

through the 3/4 inch sides, leaving you with two sides cut to 0.375 inch x 1.00 inch x .3.75 inches in length.

Use your band saw or hack saw to rough out the cuts in the bottom right guide rails, then use a file for cutting the final dimensions as per the shop drawings. **NOTE THE MAGAZINE STOPS ARE A DIFFERENT DIMENSION FOR THE CALIFORNIA LEGAL RECEIVER WHICH IS DESIGNED FOR THE 10 RD. SINGLE STACK MAGAZINES.**

INSTRUCTIONS FOR ATTACHING THE BOTTOM GUIDE RAILS TO TO THE RECEIVER SHELL

The attachment of the bottom guide rails has to be precise. The distance between the top of the Top Bolt Assembly Guide Rail and the top of the Bottom Guide Rail/Magazine stop is 0.285 inches, and this distance must be maintained the length of the Bottom Guide Rail/Magazine Stops.

The Bottom Guide Rail/Magazine Stops are mounted 3.875 inches from the rear of the receiver. Scribe the outside of the receiver flats at 0.1425 inches below the top of the Top bolt Assembly Guide Rails. Drill four 0.125

inch holes, one at each end and two evenly spaced in the 3.75 inch span of the Bottom Guide Rail/ Magazine Stops. Clamp the Bottom Guide Rails in place and fill the drilled holes with weld. Grind off and file smooth. Button allen head hardened machine screws may be used by drilling the four holes in the Bottom Guide Rail/Magazine Stop, then drilling and tapping the flats of the receiver, and installing the machine screws from the inside, using epoxy to hold bond the threads to the flats. You may have to file down the machine screw heads, if you need more clearance.

INSTRUCTIONS FOR THE MAGAZINE BOX AREA

This area should have a hole previously drilled into it for attaching the flats to the welding fixture. To you may want to enlarge this hole to 0.750 inches, before attaching the magazine plates inside the receiver. This hole will give your rifle a distinctive look not found on any other AK rifle. You may want to drill the 0.750 inch hole, then square the hole giving the receiver an original look. This is your choice, and does not affect the receiver.

The Magazine Blocks are installed on each side of the receiver, to insure the magazine fits securely in place. The Magazine Blocks for the double stack magazines are made of 4130 steel or equivalent 0.125 inch in

thickness, and are 0.750 inch x 1.750 inch rectangle these can be tack welded into place, from the inside, making sure the tack welds do not interfere with the magazine, or any other part. You can also use button welds from the outside, filling 4 holes with weld, drilled in the flats on each side of the receiver, then grinded and files smooth. Another option is drilling 4 holes on each flat of the receiver, then drilling and tapping the magazine blocks and installing with hardened machine screws. This same magazine block can be used on an AK in .223/5.56NATO. Some filing to fit may be necessary to accomplish a proper fit.

FOR THE CALIFORNIA LEGAL RECEIVER, which takes a single stack 10 rd. magazine, the thickness of the magazine block needs to be increased to 0.250 inches, then filed to fit. You will need to file the magazine lips to accomplish proper feeding with the 10 rd. single stack magazines. Installation on the magazine blocks are limited to tack welds or button welds. The machine screw method is too easy to convert to double stack magazines, therefore welds should meet the California Law criteria.

The magazine blocks for the larger calibers are dealt with in a similar manner, depending upon which magazine you use or fabricate for your rifle.

These choices are discussed later.

INSTRUCTIONS FOR INSTALLING THE FRONT AND REAR TRUNNION

Rather than riveting the rear trunnion in place, drill and tap the rear trunnion, then drill the receiver shell, and use hardened machine screws to hold the rear trunnion in place. After you get a proper fit and trim the machine screws that protrude past the trunnion, re-install the hardened machine screws with epoxy for better bonding.

For the front trunnion, you can drill and tap the rivet holes in the receiver, or drill and tap new holes. Drill corresponding holes in the receiver flats, and use hardened machine screws, installed with epoxy.

Personally I prefer to drill new holes, but this is your choice. **MAKE SURE YOU DO NOT DRILL INTO THE BARREL**.

The locations for the rivets can be drilled and tapped, then a corresponding hole drilled in the side of the receiver for use of hardened machine screws. Since the AK parts kits vary from country of origin, and time of manufacture, it is impossible to cover all the various rivet locations, so with some easy measuring, you can determine the exact location and size of the holes to be

drilled in the receiver. If your barrel is already in the trunnion, be careful not to drill into the barrel.

YOUR D&S DESIGN AK OR RPK RECEIVER AND THE LAW

You are allowed to build your own rifle, carbine, or pistol, which includes the receiver as long as the particular weapon is otherwise legal to build under current law, and your intent is not to sell or trade the firearm at the time of fabrication. Federal Law requires you to stamp your name, city and State on the receiver. You are also required to stamp at least a 4 digit serial number on the firearm. Use 1/8 inch or larger number and letter sets to stamp this information on the receiver.

For those of your building an AK pistol with the receiver, read your Federal Laws making sure it is still legal. Due to the weight of the AK pistol, you will have to use a fixed magazines instead of a detachable magazine. Some people use drums, tack welded to the receiver, which can be easily loaded in place. Another idea is using a 20 -30 rd. AK magazine tack welded in place. Then a hole drilled into the back of the magazine large enough to insert the cartridge. Next, mill or file a slot down the middle of one side of

the magazine approximately 1/8 inch wide. Fabricate a small metal "L" into a Thumb Grip, drill a hole in it and the follower inside the magazine. Pop rivet them together, with the follower in place, and the Thumb Grip on the outside. This allows you to press the follower down as you load the magazine. The AK makes a very handy pistol.

THE AK IN .223/5.56 NATO

First you need to find a .223/5.56 NATO bolt for your rifle. The next thing thing is getting a chambered barrel blank in .223/5.56 NATO, and contouring it to fit your trunnion and gas block. Personally, I like to maintain a bull barrel until just before the gas block, then a sharp taper to the a diameter that will fit the gas block, and limiting the barrel to 16 ½ inches. Another option would be a bull barrel coming out of the receiver/trunnion, then vertical flutes cut in the barrel to provide better cooling, then a sharp taper to the gas block, and a 16 I/2 inch barrel. You have a choice of contouring the barrel and determining the length to fit your individual taste. The upper and lower handguard and the hardware can be modified to the style you desire.

Fortunately, The MAC 90 was made in .223/5.56 NATO, so Chinese

magazines are available, but I have only found 10 rd. magazines for my rifle.

This rifle makes the Ruger Mini 14's look bad, especially when they find out it is a "roll your own" AK in .223/5.56 NATO..

THE AK IN 35 REMINGTON

Building the AK in .35 Remington takes a bit more work. First you have to open up the bolt face to accept the 0.460 inch rim on the .35 Remington, and purchase a barrel blank chambered for .35 Remington. Contour, or have the barrel contoured to fit the receiver/trunnion and the gas block.

The loaded length of the of the .35 Remington is 2.51inches, while the loaded length of the 7.62X39 is 2.19inches for a difference of 0.320 inch. This can easily be made up by opening up the receiver in the front, and milling off the front of the trunnion.

For a magazine, use a regular AK double stack magazine, remove the floorplate and follower. Section it vertically, where the width gets smaller at approximately 1 .750 inches from the rear of the magazine. Get you a piece of 1.000 inch 16 gauge square tubing, and cut one side off, created a squared "C". Tack weld this piece to the front of the magazine. Where the magazine

bends, you will have to make horizontal relief cuts, which will be welded closed after the complete length of square tubing is welded into place. You can remove the front magazine catch from the front portion of the original magazine, and cut off the sides, and tack weld the catch to the front of the modified magazine. Cleaning up the welds on the inside of the modified magazine with files or a dremil tool is mandatory for proper functioning. Of course do the same to the exterior of the magazine, to have a nice looking finish. You will also need to pop rivet an extension made of light gauge sheet metal on the floorplate.

The follower will need to be extended with a piece of light gauge sheet metal, which will be pop riveted to the top flat portion of the existing follower. File to fit the magazine, and band slightly in front just like the original.

You will have to file the magazine feed rails to get the modified magazine to feed the .35 Remington. This is a slow process, in which you remove a little metal, fill the magazine with cartridges, then cycle the action by hand. Once you have it to the point it cycles flawlessly by hand rapidly, it's time to test fire it. More adjustment may be needed so take your files with

you.

THE AK IN .45 WINCHESTER MAGNUM AND .50AE

This first thing is opening up the bolt face to accept the larger rim of the .45 Winchester Magnum or .50AE. Next is purchasing a barrel chambered for the .45 Winchester Magnum or .50AE. Contouring the barrel to fit the receiver/trunnion isn't a problem, but the gas block is a problem due to the diameter of the bullets of these two cartridges. So, you are looking at building, or having built a custom gas block for your rifle. One thing that needs to be included in the custom gas block is a "bleeder". The gas block can be drilled and tapped, and a set of allen socket head machines screws created with different diameter "bleeder" holes drilled in them, which allows you to adjust the gas pressure, if it is too high. Also incorporate the front sight into the gas block.

Next you will need to fabricate, or have fabricated a new gas tube, that is short enough to fit correctly. The outside diameter will remain the same, but the inside diameter reduced by 40%. You can turn vertical flutes in the

gas tube, for a better appearance, since the complete gas tube will be exposed. The gas piston will have to be shortened, then the outside diameter turned down for a proper fit in gas tube.

For the magazine, use a 15 rd. or 30 rd. M-1 Carbine magazine, which will be single stack magazines with either cartridge. You will need to modify the magazine to include the front and rear AK catches. You will need to mount the magazine forward, and move the magazine catch to the forward location, or fit the magazine to rear, and fabricate a feed ramp between the front of the magazine, and the barrel. The feed ramp can easily be built out of black pipe, cut in half lengthwise, fitted, then tack welded to the receiver.

PISTOL CARTRIDGE AK'S

Lot's of people are interested in AK pistols and carbines in pistol calibers, like 9mm Parabellum, .45 ACP,. 30 M-1 Carbine, and 7.62 Tokarev, you will be changing to a direct blow back gas system, which depends on the weight of the bolt and the strength of the spring or springs for resistance. The locking lugs are machined off the bolts allowing straight blow back.

SUMMARY

With some work you can build a AK pistol, carbine or rifle that preforms as well, if not better than some of the $1,000.00 semi auto firearms in the same caliber.

I hope you enjoy building the D&S Designs AK receiver, then completing your pistol, carbine or rifle.

SOURCES FOR AK & RPK PARTS AND PARTS KITS

The SKS Man 1-800-209-6984

http://www.sksman.com

Global Trades, Inc.

http://www.globaltrades.com

Ace Ltd.

http://www.riflestocks.com

K-Var Corp.

http://www.k-varcorp.com

Classic Arms

http://www.classicarms.org

SOURCES FOR AK AND RPK PARTS AND PARTS KITS

(Continued)

Inter-Ordnance, Inc.

http://www.interordnance.com

AA-OK Inc.

http://www.aa-ok.com

SOURCES FOR STEEL, RIVET SETS, RIVET GUNS, AND BUCKING BARS, AND MACHINE SCREWS

Aircraft Spruce & Specialty Co. 1-800-824-1930

225 Airport Circle

Corona California 91720

The steel can usually be found locally in any at any Steel Yard. The Rivet sets, Rivet Guns, Bucking Bars and hardened machine screws can usually be found locally at most fastener stores.

OTHER HELPFUL INFORMATION FOR AK OWNERS

There are quite a few AK single stack magazine owners out there that want to convert their rifle to accept high capacity double stack

magazines. The first thing you will need to do is lower the number of foreign parts, so the rifle is now considered U.S. manufacture. Now, you can legally convert your rifle to accept high capacity AK double stack magazines. Remember that you can use made in U.S.A. floorplates and followers in the high capacity double stack magazines, but each magazine has to have the made in U.S.A. follower and floorplate, to be legally used in your rifle, and reducing the count of foreign made parts.

THE HIGH CAPACITY DOUBLE STACK MAGAZINE CONVERSION

Recent post of various gun related forums suggest you need a milling machine and a welder to do this conversion, which makes the conversion much easier, but is simply is not true. The conversion can be accomplished with just files and a drill, drill bit and tap. The width of the magazine opening has to be increased to 1.00 inches on center for 2.27 inches toward to front of the magazine. This can be accomplished using files alone, or with the help of a Dremil tool. If you chose to use a dremil tool, leave extra metal that can be finished with a file. At this point, for the 7.62X39 cartridge

magazine, the magazine opening is reduced to 0.90 inches on center for another 0.55 inches. The total length of the magazine opening should be 2.82 inches. In some cases, the bottom of the trunnion must be trimmed a small amount to get a good fit. Try the magazine, and see if it fits. At this point you might have to do extra file work in the corners, etc., until you get a good fitting magazine.

You might have to install a feed ramp on some rifles, or modify the existing feed ramp on others. The feed ramps sole purpose is to guide the cartridge from the magazine into the chamber.

To create a feed ramp from scratch, start with a small piece of black pipe, cut in half length wise, and fitted into the receiver between the front of the magazine, and the barrel, taking care not to interfere with the locking lug locations in the trunnion. You can also use light gauge sheet metal to form the feed ramp, and use a spacer to take up the slack between the sheet metal feed ramp and the receiver. Keep in mind the sole purpose of the feed ramp, and fit it accordingly. This might mean reducing the circumference of the piece of pipe, notching, etc., for the proper fit. Next see if the bolt will close properly. If you encounter no problems, put one cartridge in the magazine,

then with the rifle pointed in a safe direction, pull the bolt back and see if the cartridge chambers properly, and extracts properly. Next, try 5 cartridges, allowing the bolt to strip the fist cartridge off the magazine, then cycle the action by hand rapidly, looking for any problems. If you don't encounter any problems, or have remedied the problems, it's time to permanently attach the feed ramp. I have found the easiest way is the install the feed ramp, and a spacer (if needed) in the receiver. Clamp it in place with long nosed vice grips, checking again to make sure the feed ramp remained in the proper location, then drilling a small hole through the bottom of the receiver, spacer (if needed) and far enough to leave a dimple in the feed ramp. At this point, remove the feed ramp again, and drill holes in the receiver and spacer, and the feed ramp, as per the size of the machine screw you intend to use. Now, tap the hole in the feed ramp. Clean all cutting oil, etc. off the feed ramp by boiling a couple of times in hot water, which will remove the oil and open the pours of the metal. Install the feed ramp and spacer, (if needed) in the receiver, then install the machine screw with epoxy. Clean up any epoxy from the top of the feed ramp, and file down any protrusion of the machine screw.

Some existing feed ramps can simply be opened up on the sides, to

allow proper feeding. This is a trial and file situation, until you achieve proper feeding.

If the existing feed ramp cannot be modified, file it down square until you can fit a piece of black pipe in the manner described above, or shape it into a half moon design the black pipe will fit in, without any slop. Attach using the same manner, threading only the feed ramp. Since there are a number of different AK's that are designed for single stack magazines, the method above is generalized, and slight adjustments might need to be made to convert to double stack magazines.

BUILDING YOUR AK RIFLE ON THE D&S DESIGNS AK RECEIVER

This is a brief description of the procedure for building your rifle.

1. Press your barrel into the receiver, setting your headspace with go and no go gauges. You can purchase, and use a 12 ton press (model # U828-9720), from Enco, 1-800- 873-3626. (cost $99.95). There are several other homemade methods that can be used which are cheaper, one is shaped like a bearing puller, with a collar at the barrel step. Others have been made of thick bar stock, drilled to fit around the barrel at the first step, and pulled down a

thread at a time using ½ inch course thread bolts or all thread. So, if you are short on cash, let your imagination solve your problem. When headspaced properly, pin the barrel.

2. Press on the rear sight block, the handguard retainer flange, gas block ans front sight. Check everything making sure it is aligned properly at 12 o'clock. After everything is aligned properly pin it into place.

3. Install the triggerguard.

4. Now, you can install the receiver parts into the receiver, making sure they fit properly

5. Now you install the wood or synthetic furniture, then the gas tube, bolt, bolt carrier, and magazine.

6. Check your rifle unloaded for proper functioning of all the parts.

7. Take the rifle to a Gun Range or other safe pace to shoot. Load one round, and allow the bolt to strip the cartridge from the magazine. If the cartridge chambers properly, fir the rifle. If you don't experience any difficulties, load the magazine with 2 cartridges, this time firing them with 2 slow pulls of the trigger. We are check for the rifle to double or fire full auto. If you do not encounter any problems, load five rounds, and fire as soon as

you gain a good target after each round. We are still testing for doubling or full auto fire. If you encounter no problems, load the magazine with 10 cartridges, and fire them as rapidly as possible. We are now looking for jams, double feeding, etc. If this goes well, allow the barrel to cool, and do the same again. Run through about 50 cartridges, and you will know if the rifle is functioning properly.

All during testing, examine the receiver for any problems like a loose rivet, machine screw, etc.

In closing, D&S DESIGNS wishes you many years of enjoyment with your rifle, and want to thank you for purchasing the plans and instructions.

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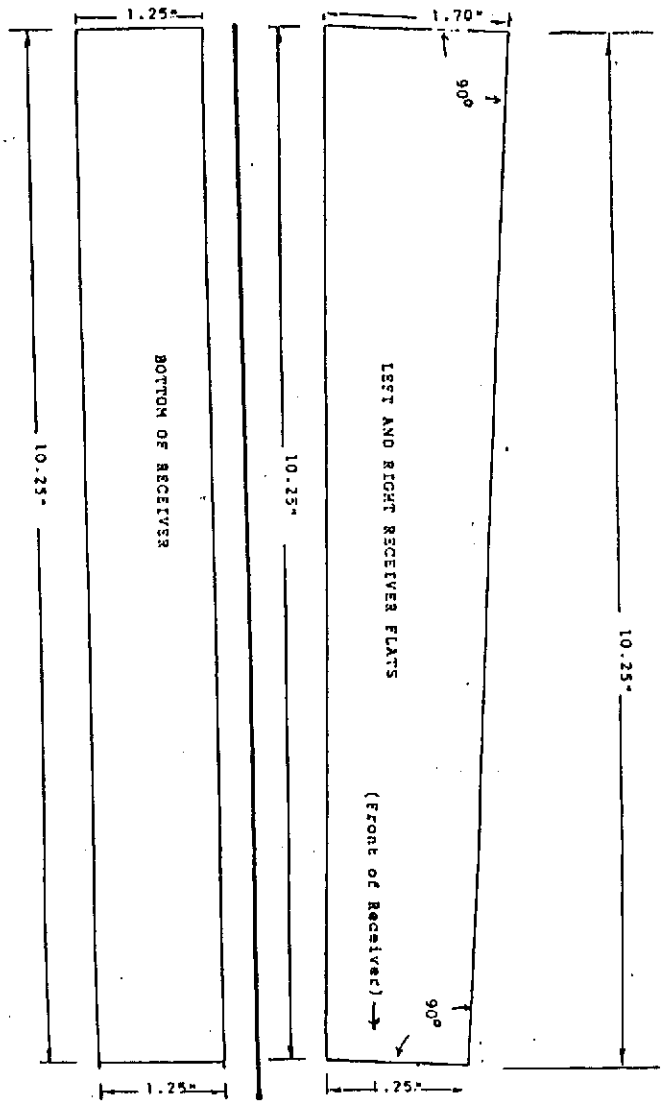
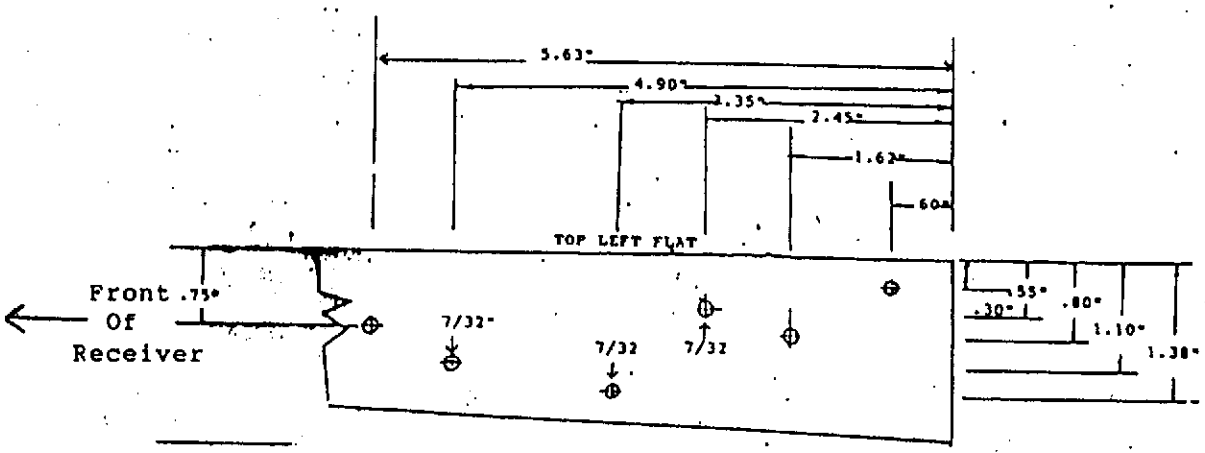
RIGHT AND LEFT RECEIVER FLATS

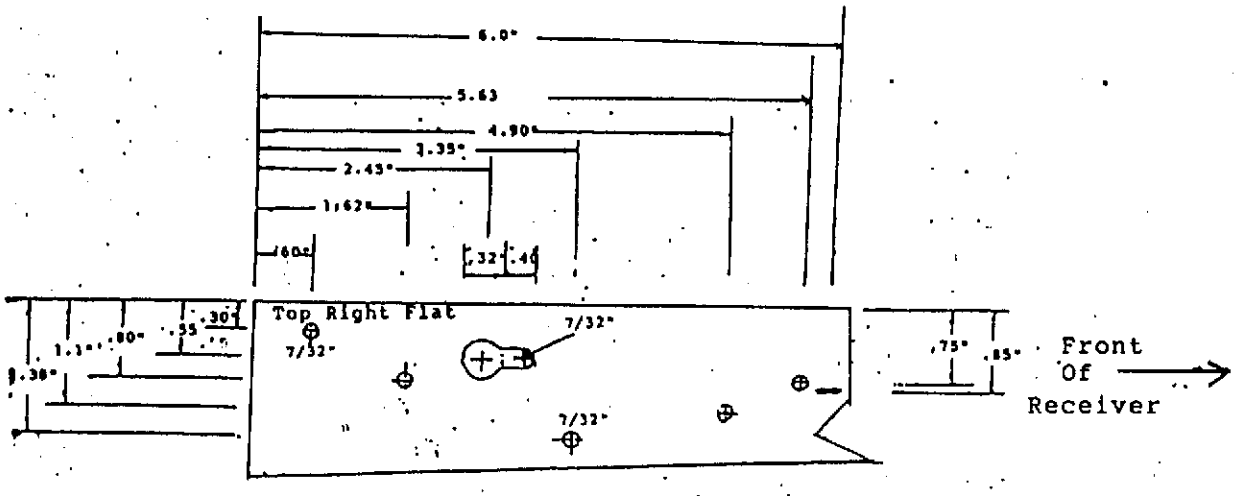
AND BOTTOM OF RECEIVER



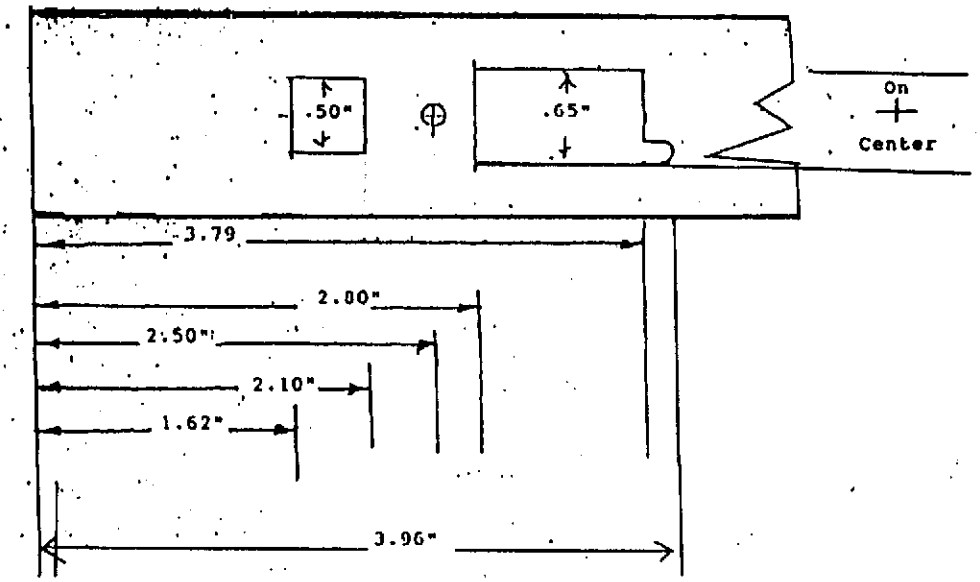
DETAIL FOR THE RIGHT AND LEFT FLATS

OF THE AK RECEIVER

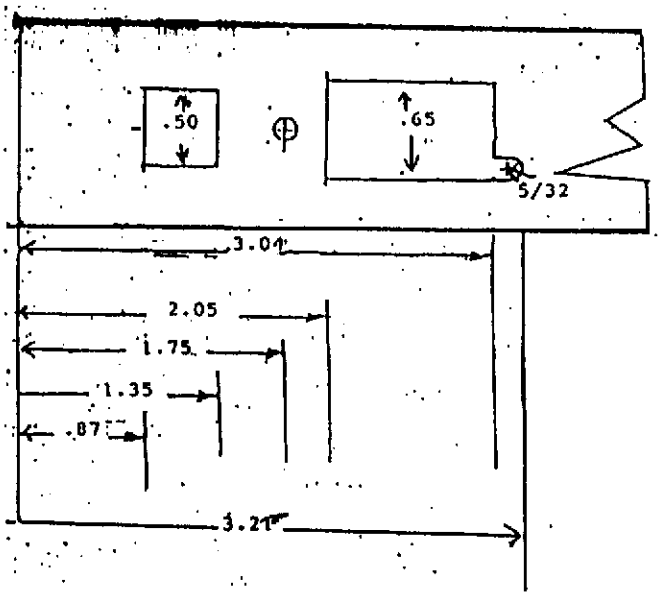




Detail of Bottom Receiver Trigger Area

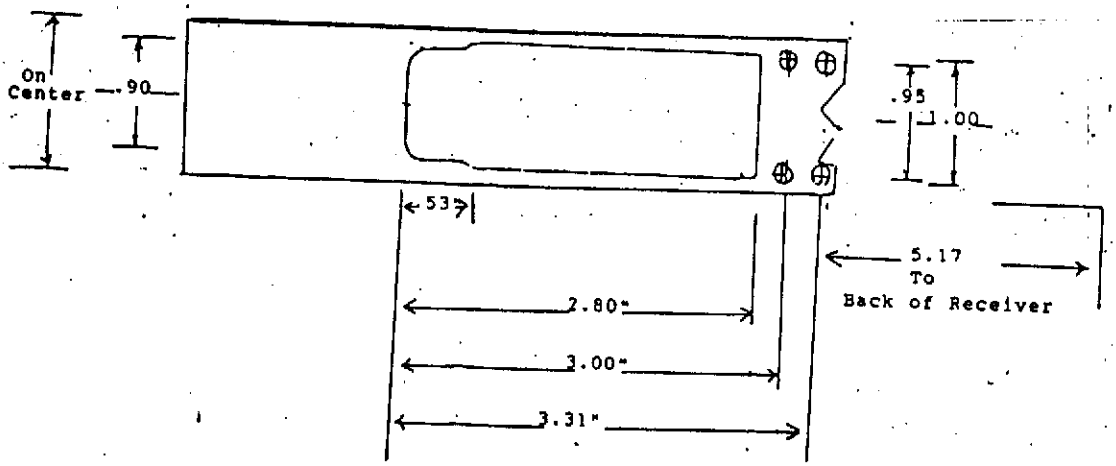


Detail of California Legal Bottom Receiver Trigger Area

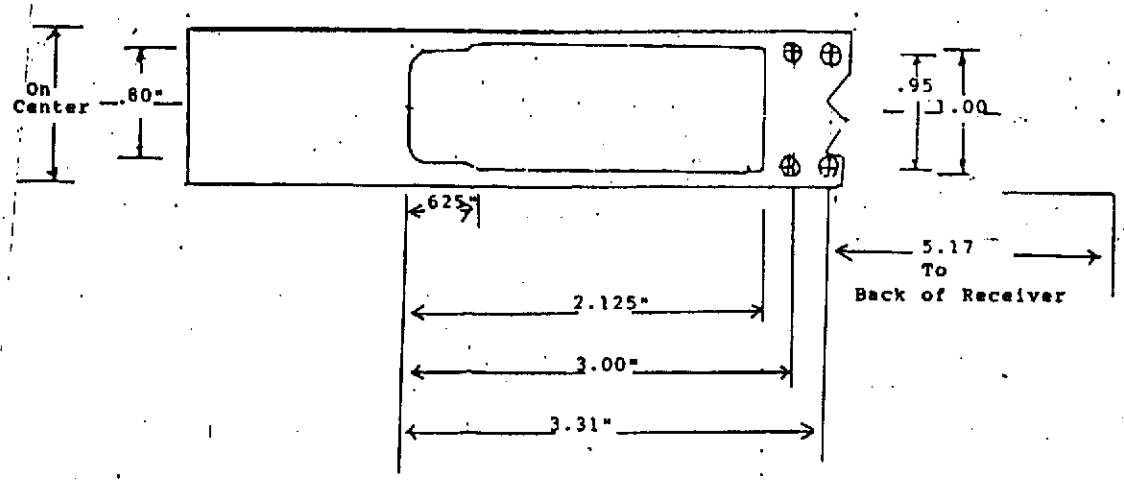


Detail of Bottom of Receiver
Magazine Area

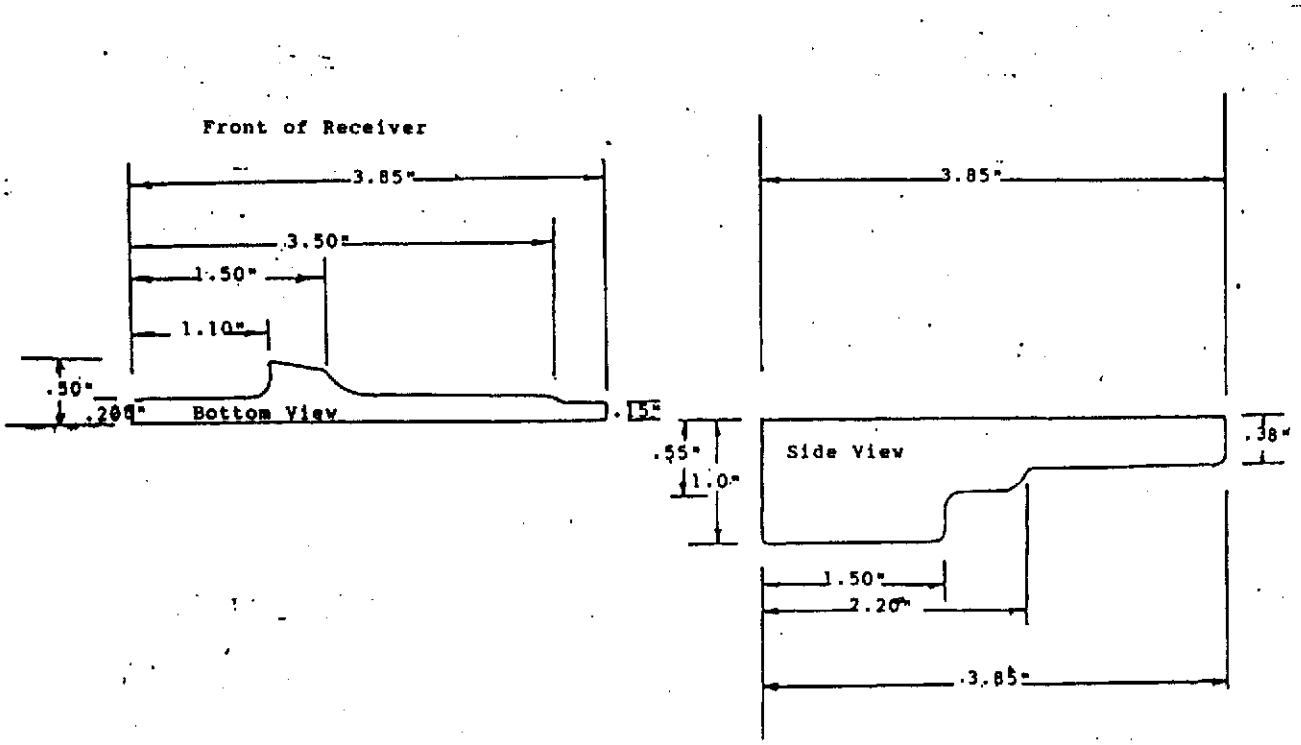
For 7.62X39 Cartridge



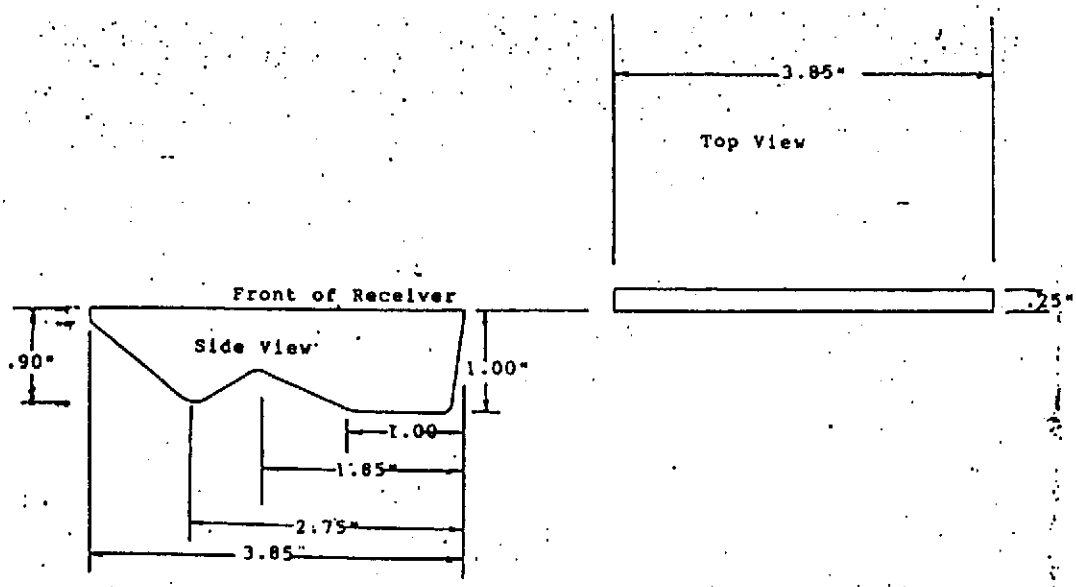
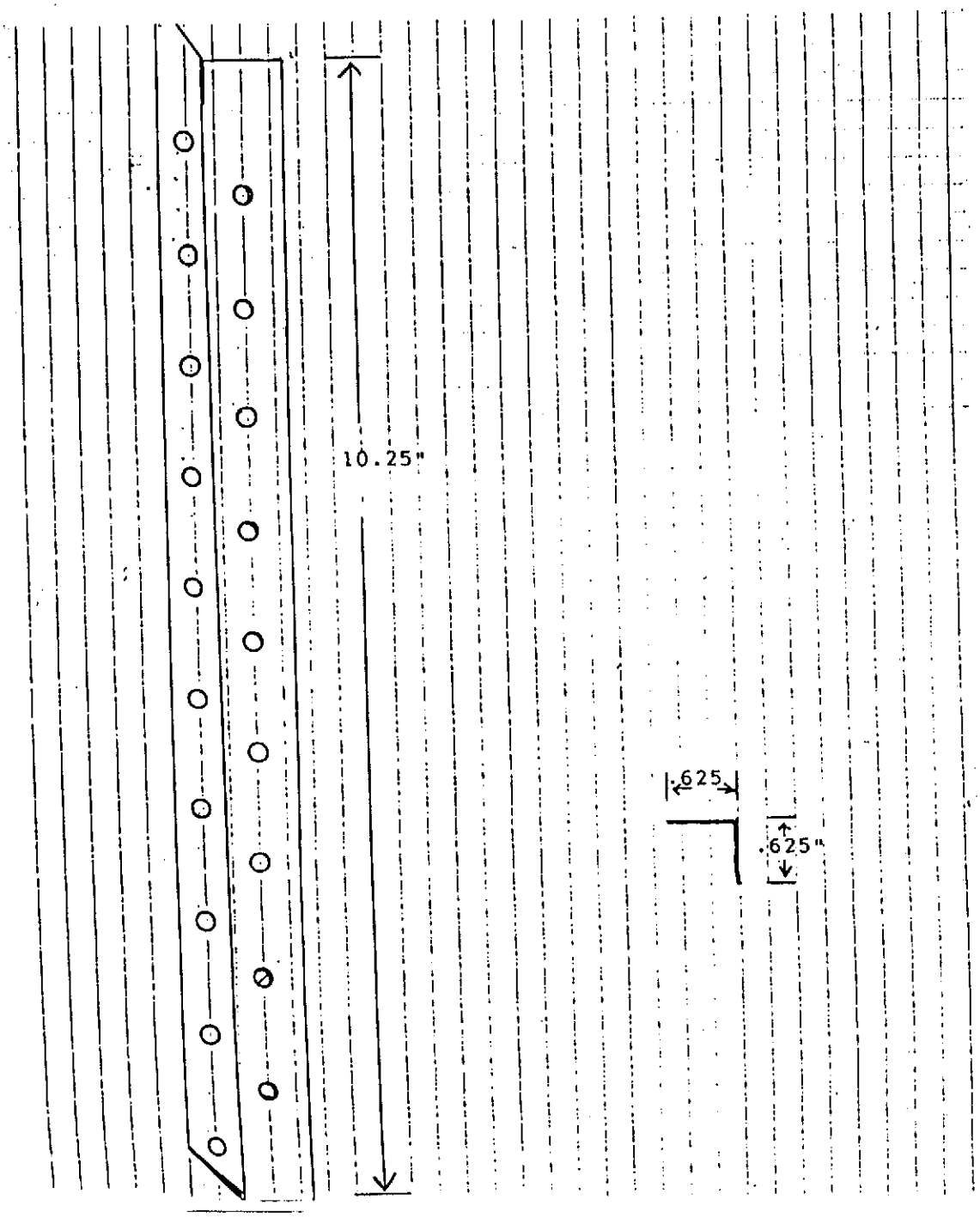
For .223/5.56 NATO Cartridge



Detail Of Left Bottom Guide Rail



Detail Of Right Bottom Guide Rail



Detail of Receiver Connector